

III. Remarks

The Official Action of November June 9, 2009 has been thoroughly studied. Accordingly, the following remarks are believed to be sufficient to place the application into condition for allowance.

Claims 1-6 are pending in this application.

Claims 2, 4 and 6 were rejected under 35 U.S.C. §112, second paragraph.

Under this rejection the Examiner noted that it was unclear what the phrase “the body” referred to.

In response to this rejection, claim 2 has been amended to recite the “elastic” body.

Claims 1-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0068797 to Ikemoto et al. in view of U.S. Patent Application Publication No. 2004/0106723 to Yang et al. and U.S. Patent Application Publication No. 2004/0226393 to Hong.

For the reasons set forth below, it is submitted that each of the pending claims are allowable over the prior art of record and therefore, the outstanding rejection of the claims should properly be withdrawn.

Favorable reconsideration by the Examiner is earnestly solicited.

The Examiner has relied upon Ikemoto et al. as disclosing:

...a rubber composition comprising 1) a rubber compound composed of at least one of an ethylene-propylene-diene (EPDM) terpolymer and an ethylene-propylene (EPM) copolymer, 2) a peroxide vulcanizing agent, 3) a resorcinol-based compound, and 4) a melamine resin (¶0008-0011) (claims 1, 2). Example 1 of Ikemoto discloses a rubber composition comprising 100 parts of ESPRENE 501A, an EPDM rubber having a Mooney viscosity (ML 100°C) of 43 and comprising 50% ethylene, 4% diene, and, by extension, 46% propylene and 4.2 parts di-t-butyl peroxy-

diisopropylbenzene as a peroxide vulcanizing agent (§0038) (claims 1, 2). Example 7 of Ikemoto discloses a rubber composition prepared in a manner similar to Example 1, except ESPRENE 201, an EPM rubber having a Mooney viscosity (ML 100°C) of 43, was used instead of EPDM. Ikemoto teaches that the rubber compositions of US20020068797 may be used as rubber vibration insulators (§0036).

As stated above, Ikemoto recites that the rubber compound is composed of at least one of EPDM and EPM; Ikemoto therefore teaches the use of a rubber composition comprising a blend of EPDM and EPM. The examiner therefore takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare a blend rubber comprising ESPRENE 501A and ESPRENE 201 to prepare a rubber composition as described in US20020068797 (claim 2).

Hong has been relied upon as disclosing a conventional crankshaft that is equipped with a damper pulley.

The Examiner concedes that:

Ikemoto and Hong are both silent regarding the addition of a C₈-C₁₂ α -olefin oligomer having a number average molecular weight of 300-1400 to EPDM/EPM.

The Examiner has relied upon Yang et al. as disclosing:

...the use of oligomers of C₆ to C₁₄ α -olefins (claims 1, 2) (§0077) having a number average molecular weight in the range of 100-21,000 (claims 1, 2) (§0079) as a non-functional plasticizer (NFP) for polyolefin homopolymers and copolymers (§0002, 0039). Yang discloses that the polyolefin is present in the final composition at levels from 40 to 99.9% by weight, based on the total weight of polyolefin and NFP; by extension, the composition comprises 0.1 to 60% by weight of the NFP (claims 1, 2) (§0043). Yang discloses that the addition of the NFP results in a polymer composition having improved properties (§0007-0008).

The Examiner further states:

Ikemoto teaches that the polymer composition of US2002/0068797 may contain additives (§0033-0034). As taught by Yang, it was known in the art to use low molecular weight oligomers of C₆ to C₁₄ α -olefins as plasticizers for polyolefin copolymer.

The Examiner therefore takes the position that:

...it would be obvious....to modify the damper rendered obvious by the combination of Ikemoto and Hong by adding 1-60% by weight of a C₆ to C₁₄ α -olefins having Mn or 100 to 21,00 to the EPDM/EPM composition, for the purpose of obtaining a damper having improved properties, as taught by Yang.

Following the Examiner's reliance upon Yang et al. applicants note the following properties of the non-functionalized plasticizers (NFP) which is added to the polyolefin:

The NFPs have a kinematic viscosity of 2 cSt or less at 100°C (claim 1).

The NFPs comprise at least 50 weight % of C₆ to C₁₀₀ isoparaffins (claim 2).

The NFPs comprise at least 50 weight % of C₅ to C₂₅ n-paraffins (claim 3)

The NFPs comprise at least 50 weight % of a dearomatized aliphatic hydrocarbon comprising a mixture of normal paraffins, isoparaffins and cycloparaffins (claim 4).

It is clear that the NFPs of Yang et al. correspond to the paraffin plasticizers that are discussed in applicants' paragraph [0022] on page 9 of applicants' specification so that they are obviously different from the α -olefins used by applicants.

Note in this regard applicants have distinguished their α -olefins from paraffin plasticizers in paragraph [0022], *et seq.*

The Examiner has referred to paragraph [0077] of Yang et al. as disclosing the use of oligomers of C₆ to C₁₄ α -olefins.

Paragraph [0077] of Yang et al. reads, in part, as follows:

In another embodiment the NFP comprises polyalphaolefins comprising oligomers of linear olefins having 6 to 14 carbon atoms.... having a kinematic viscosity of 10 or more...

In paragraph [0132] Yang et al. teaches that the NFP can be a random copolymer of propylene and ethylene and further teaches:

The ethylene [or C₄ to C₂₀ α -olefin derived units] are present from 0.1 wt % to 50 wt % of the copolymer in one embodiment, and from 0.5 to 30 wt % in another embodiment, and from 1 to 15 wt % in yet another embodiment, and from 0.1 to 5 wt % in yet another embodiment...

This means that the propylene in the random copolymers of propylene and ethylene is present 99.9 to 50 wt.%, 99.5 to 70 wt.%, 99 to 85 wt.% 99.5 to 95 wt.%, respectively.

Nowhere in Yang et al. is it disclosed that the propylene-ethylene random copolymer is EPDM.

Applicants' paragraph [0017] reads, in part, as follows:

The elastic body is formed from a cross-linking product of an EPDM composition comprising said components (a), (b) and (c), whose propylene content in sum total of ethylene and propylene in component (a) is 35-50 wt. %, preferably 45-50 wt. % in at least one kind of EPDM or its blend rubber.

Accordingly the EPDM in applicants' invention is outside of the teachings or category of polyolefin, which is plasticized by α -olefin oligomers.

Although Yang et al. teaches that the NFP can comprise polyalphaolefins comprising oligomers of linear olefins having 6 to 14 carbon atoms.... having a kinematic viscosity of 10 or more, Yang et al. fails to teach applicants' claimed EPDM composition.

Based upon the above distinctions between the prior art relied upon by the Examiner and the present invention, and the overall teachings of prior art, properly considered as a whole, it is respectfully submitted that the Examiner cannot rely upon

the prior art as required under 35 U.S.C. §103 to establish a *prima facie* case of obviousness of applicants' claimed invention.

It is, therefore, submitted that any reliance upon prior art would be improper inasmuch as the prior art does not remotely anticipate, teach, suggest or render obvious the present invention.

It is submitted that the claims, as now amended, and the discussion contained herein clearly show that the claimed invention is novel and neither anticipated nor obvious over the teachings of the prior art and the outstanding rejection of the claims should hence be withdrawn.

Therefore, reconsideration and withdrawal of the outstanding rejection of the claims and an early allowance of the claims is believed to be in order.

It is believed that the above represents a complete response to the Official Action and reconsideration is requested.

Conclusion

It is believed that the above represents a complete response to the Official Action and reconsideration is requested.

If upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved; the Examiner is invited to contact applicants' patent counsel at the telephone number given below to discuss such issues.

To the extent necessary, a petition for an extension of time under 37 CFR §1.136 is hereby made. Please charge the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 23-1925 and please credit any excess fees to such deposit account.

Respectfully submitted,

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